

RECOMBINANT PHYTASES AND METHODS
OF MAKING AND USING THEM

5

ABSTRACT

A purified and modified phytase enzyme from *Escherichia coli* K12
appA phytase is provided. The enzyme has phytase activity and improved thermal
tolerance as compared with the wild-type enzyme. In addition, the enzyme has
10 improved protease stability at low pH. Glycosylation of the modified phytase
provided a further improved enzyme having improved thermal tolerance and protease
stability. The enzyme can be produced from native or recombinant host cells and can
be used to aid in the digestion of phytate where desired. In particular, the phytase of
the present invention can be used in foodstuffs to improve the feeding value of phytate
15 rich ingredients.